Marcel Hofmann

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EDUCATION

University of applied sciences Munich   Munich, Germany
Master of Science, Computer Science (Focus: Embedded Computing), Current Grade: 1.4   *2024 — present*

- **Simulated KUKA KR6 robot solving a puzzle**. Part of the robot and visualization team, implementing interpolation, kinematics and visualization of the robot. System running on ROS2, visualization on OpenGL + Qt based Coin3D. (C++, Python)
- **1st place VDI Autonomous Driving Challenge.** Autonomous driving of a model car using computer vision (1:40). Part of the trajectory team. (C++, ROS2)

University of applied sciences Munich   Munich, Germany
Bachelor of Science, Business Informatics, Grade: 1.4   *2020 — 2024*

- Bachelor's Thesis: Identification of research gaps in the state of science and practice in the detection of data anomalies

WORK EXPERIENCE

Backend & Data Engineer   2024 — present
DeepImmo   *Munich, Germany*

- **Streaming Scraping of Property Listings.** High concurrency streaming, real-time streaming processing using Pyspark on Databricks. Daily processing of over 100k listings. (Python, Pyspark, Typescript)
- **Data Platform.** Data processing on databricks with pyspark. Large scale geometric processing using h3. (Python, Pyspark)
- **Vector Tilesets.** Generation of Germany-Wide Vector Tilesets, creating diverse maps like general location quality and point of interest based maps. (Go, Typescript)

Full Stack Engineer   2022 — 2024
Codestryke   *Munich, Germany*

- **Lead Backend Engineer for an insurance based IoT-Platform.** High-Availability IoT data ingestion, preprocessing and real time event generation. Multi-Tenant Architecture with infrastructure provisioning on Azure. (MQTT, REST, Typescript)
- **Fullstack Engineer for an IoT-Monitoring Dashboard.** Realtime monitoring of 3D-Printers, timeseries data ingestion and preprocessing, alerting. Deployed on Mindsphere, the Siemens IoT-Platform and AWS. (GraphQL, REST, Typescript, React)

Working Student   2021 — 2022
Siemens Health Insurance (SBK)   *Munich, Germany*

- **Project Management App and Web.** UI and UX research. Integration Testing.

PROJECTS

Home IoT Setup.

- **IoT-Hub.** Go based IoT-Hub with basic timeseries data visualization. (Go)
- **Air Quality Sensor.** Air quality sensor with a OLED display, built on a Raspberry Pico W with freeRTOS. TCP Connection to IoT-Hub for Data Ingestion, UDP for remote logging. (C, freeRTOS, I2C)
- **Plant Irrigation Sensor** ESP32-C3 based plant irrigation sensor. OTA support, remote logging, MQTT data transfer. (C, MQTT, ESP-IDF)

SKILLS

- **Programming Languages**: Python, C, C++, Go, Typescript
- **Technologies/Keywords**: freeRTOS, RIOT OS, Zephyr, ESP-IDF, Docker, Terraform, MQTT, I2C, SPI, AWS, Azure, K8s, Pyspark, Databricks, React